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The impact of Islamic Banking finance on domestic investment in Malaysia, an econometric study during the period (2020-2001)

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Abstract--This study aims to highlight the impact of Islamic banking financing on domestic investment in Malaysia for the period 2000-2021, using the Johansen Integration test, relying on local investment as a dependent variable and total Islamic banking financing as an explanatory variable. The study concluded that the Islamic banking financing variable has a positive relationship with the local investment variable in Malaysia. There is a unidirectional causal relationship between Islamic banking financing and local investment, given the contribution of Islamic banks in stimulating local investment through their financing of small and medium enterprises, most of which are owned by the family sector, which are considered the backbone of the Malaysian economy, and which contribute to the economic development of the country.

Keywords---Islamic banking financing, local investment, Small and medium enterprises.

Introduction

The Islamic banking sector is one of the fastest-growing sectors in the global banking industry, attributed to its distinctive features. Its significance has recently increased, particularly after demonstrating resilience during the global financial crisis of 2008, in addition to bolstering investment and economic growth. Numerous Islamic banks have opened their doors in various countries around the world. Despite the relatively short time since the establishment of Islamic banks, they have become strong competitors to conventional banks in the global financial sector.

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Among the leading Islamic economies in the field of Islamic finance is the Malaysian economy, which is considered one of the most important economies in Asia and the world in terms of income generation and income diversification. Although Malaysia incorporates both Islamic and conventional systems in its financial structure to finance its investments, it aims, through its fiscal and monetary policies, to support and deepen the Islamic financial industry. This has enabled Malaysia to annually capture the largest shares of the global Islamic financial market.

Research Problem

Based on the above, the following research problem is posed:

To what extent does Islamic banking finance in Malaysia affect domestic investment during the study period?

Hypotheses

- Islamic banking finance represents an effective alternative to stimulate the country's domestic investment.
- There is a significant relationship between total Islamic banking finance and Malaysian domestic investment during the period 2000-2021.

Significance of the Study

The importance of this study lies in understanding the effective role that Islamic banks play in stimulating domestic investment as a strategic financial alternative and economic necessity. From a theoretical perspective, researchers have recently shown increasing interest in the role of this sector in domestic investment through empirical studies examining the relationship between the development of the Islamic banking sector and domestic investment. These studies have produced varying results regarding the direction of this relationship. In this context, the study derives its significance from the importance of the topic under investigation.

Methodology

To achieve the research objectives and address the posed problem, the study relies on the descriptive-analytical method. This involves collecting information and statistics on Islamic banks and analyzing their impact on domestic investment. Additionally, the econometric method is employed to conduct an empirical study and identify the optimal model to explain and determine the relationship between the independent variable, represented by the total flow of finance from all local and foreign Islamic banks in Malaysia, as well as the various Islamic windows in conventional banks, and the dependent variable, represented by the country's domestic investment. The gathered data will then be analyzed to arrive at the study's conclusions.

Theoretical Framework of Islamic Banking Finance and Domestic Investment

This section of the research outlines the theoretical framework of the study, addressing the concepts of Islamic banking finance and domestic investment, as well as the relationship between them. Additionally, the most significant previous studies that explored this relationship using various econometric techniques and methods will be discussed.

The Concept of Islamic Banking Finance and Its Relationship with Domestic Investment

A. Islamic Banking Finance:

Islamic finance is defined as an agreement between two parties, namely the lender and the borrower, where the lender provides funds either in cash (various forms of money) or in kind, such as tangible assets like fixed assets including land, buildings, vehicles, production equipment, or inventories like goods and raw materials, to the borrower to generate returns for both parties within the constraints of Islamic law. Examples of such arrangements include *musharaka* (partnership) and *murabaha* (cost-plus financing), among others (Faqous, 2010). Generally, Islamic banks are financial institutions whose products and services comply with the principles of Islamic law. These banks aim to attract and mobilize financial resources from various segments of society (financial inclusion) and invest them in real projects that generate profits, such as small and medium-sized enterprises, which align their investments with the principles of Islamic law.

B. Domestic Investment:

Domestic investment, also known as gross fixed capital formation, refers to the expenditure on capital goods such as machinery, factories, houses, etc., in addition to changes in inventory (raw materials and other productive goods) (Ben Issa, 2023).

The concept of investment at the domestic level, which is of interest in our study, can be defined regardless of the type of instruments used in the investment process. It involves the use of funds in various local markets, with funds used by organizations or individuals within their home country being described as domestic investments. Examples include business ventures, gold, foreign currencies, and securities traded on stock exchanges, among other instruments.

C. The Concept of Investment from an Islamic Perspective:

Investment in Islam refers to the production and growth of wealth in any productive sector in accordance with the principles of Islamic law, whether in trade, industry, or any other economic activity. It is considered a human endeavor in economics that stems from Islamic law, contributing to the realization and stability of the objectives of the Islamic economic system. This is achieved by using funds to generate returns and increase societal wealth for the benefit of both the individual and the community.

Islamic Banking in Malaysia

Islamic banking represents the core and backbone of the Islamic financial industry. Initially, Islamic financial intermediation emerged to meet the financing needs of the Muslim majority in Malaysia. Over time, Malaysia has become one of the most significant economies that rely on Islamic finance to achieve stability and growth in its macroeconomic variables. The Gross Domestic Product (GDP) reflects the productive strength of the economy, and its diversity indicates the soundness and efficiency of the economic policy in utilizing all resources contributing to income generation (Zaghlami & Cherit, 2018).

Section Three: Islamic Banking in Malaysia

Islamic banking represents the fundamental core that shaped the Islamic finance system, beginning with the establishment of Islamic windows or branches within various banks and Islamic financial institutions. These were created to meet the financing needs of the Muslim population that refused to engage with the conventional, interest-based financial system. Over time, this initiative evolved and expanded, forming independent financial entities operating under specific principles and regulations. This initial phase marked the launch of Islamic banking activities in Malaysia.

1. The Development of the Islamic Finance Industry Globally

According to the 2021 Islamic Finance Development Indicator (IFDI) report by Refinitiv, the global Islamic finance industry reached a volume of 4 trillion USD, encompassing 1,679 Islamic financial institutions. The sector recorded a significant growth rate of 17% in 2021 compared to the end of 2020.

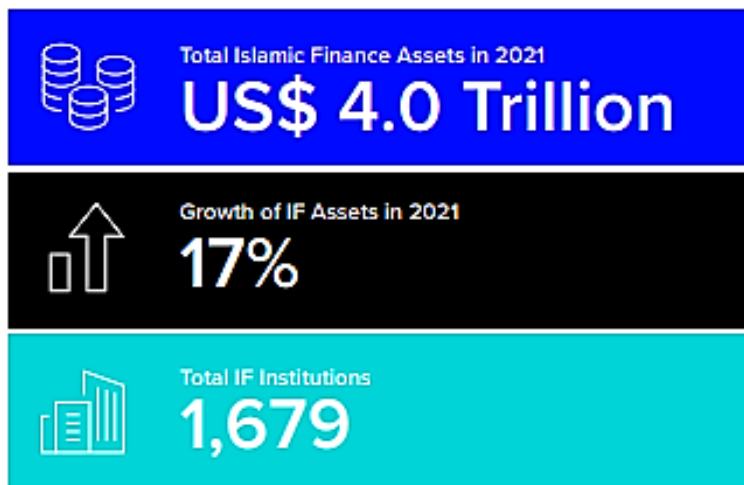


Figure 2.5: The Landscape of Islamic Finance in 2021

Source : RFINITIV, ISLAMIC FINANCE DEVELOPMENT INDICATOR, Disponible sur : https://icd-ps.org/uploads/files/ICD%20Refinitiv%20ifdi-report-20221669878247_1582.pdf (03/07/2023), p : 24.

Islamic banking accounted for 70% of the total Islamic finance assets, equivalent to 2.765 trillion USD, which includes 566 Islamic banks and banking institutions distributed across various parts of the world.

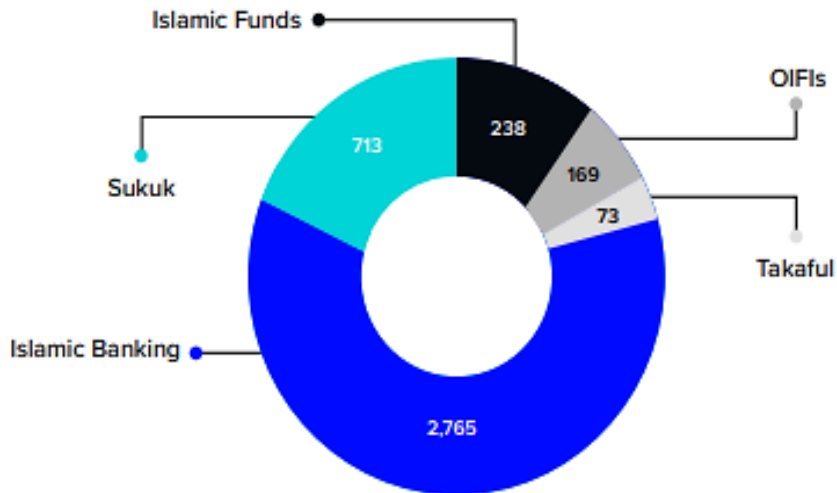


Figure 2.6: Distribution of Islamic Financial Assets by Sector in 2021

Source: *RFINITIV, ISLAMIC FINANCE DEVELOPMENT INDICATOR*, Disponible sur: https://icd-ps.org/uploads/files/ICD%20Refinitiv%20ifdi-report-20221669878247_1582.pdf (03/07/2023), p: 08.

The demand for Islamic banking services continues to increase globally among various financiers and investors, both in Islamic countries and beyond. It is projected that the industry will grow to reach 4 trillion USD by 2026. Consequently, the overall Islamic finance industry is expected to grow to approximately 6 trillion USD by 2026, according to the Islamic Finance Development Indicator report.

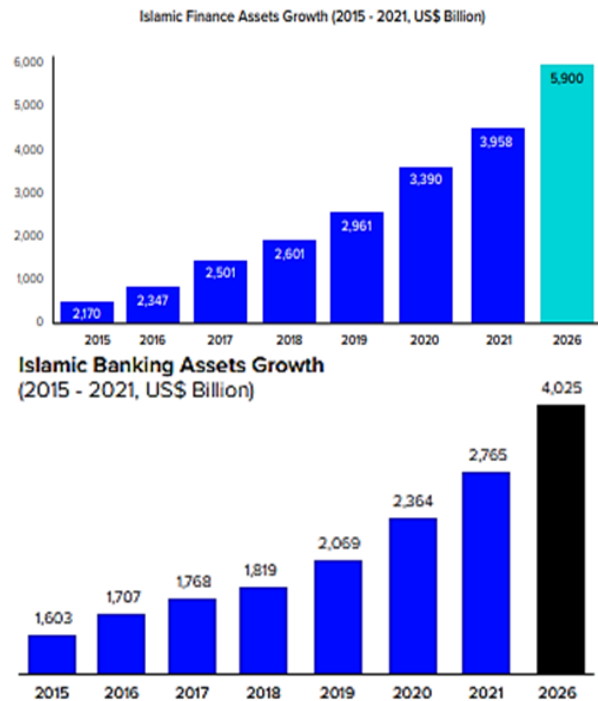


Figure 2.7: Projected Growth of Islamic Financial Assets Through 2026
 Source: RFINITIV, ISLAMIC FINANCE DEVELOPMENT INDICATOR, Disponible sur: https://icd-ps.org/uploads/files/ICD%20Refinitiv%20ifdi-report-20221669878247_1582.pdf (03/07/2023), p: 08 / 24.

Indicators of the Success of the Islamic Finance Industry in Malaysia

Malaysia stands as a leading model in the global Islamic finance industry, particularly in Islamic banking, sukuk (Islamic bonds), and Shariah-compliant financial products. Several indicators highlight Malaysia's prominence in this field:

1. Diversity of Banking Services

Islamic banking products in Malaysia have been developed using principles such as *Murabaha* (cost-plus financing), *Istisna'* (manufacturing finance), *Ijarah* (leasing), *Mudaraba* (profit-sharing), *Musharaka* (joint venture), *Kafala* (guarantee), among others. Currently, Islamic financial institutions in Malaysia offer over 50 products and services, which have evolved through four main phases (Lacheheb & Bouriche, 2015, p. 95):

1.1. The First Phase (1983):

During this phase, the products were limited to: current deposits, savings deposits, *Mudaraba*, investment accounts, and forward sales for housing finance.

1.2. The Second Phase (1993):

New formats were introduced, such as Murabaha, working capital financing between Islamic banks, asset securitization, and the financial market.

1.3. The Third Phase (1999):

Services such as fixed *Ijarah* and Islamic credit cards were added.

1.4. The Fourth Phase:

In this phase, financing through *Musharaka*, diminishing *Musharaka*, *Mudaraba*, trading of securities, and other recently introduced services and instruments began to materialize.

2. Capacity to Mitigate Financial Risks

To address the issue of excess liquidity in financing, Malaysia successfully established an interbank market in 1994 by adhering to strict Islamic finance principles. The Malaysian Central Bank (*Bank Negara Malaysia*) provided Shariah-compliant liquidity for investment and profit distribution among Islamic banks, in line with Islamic finance principles. Additionally, the government initiated a series of government-related investments and financing contracts in compliance with Shariah principles, and developed tradable forward sales instruments in the secondary market. This encouraged the creation of an interbank market among Islamic banks, reducing the liquidity crisis. Moreover, *Bank Negara Malaysia* established the Shariah Advisory Council in 1997, which oversees the Shariah compliance of various financial services. From 1999, Bank Negara was appointed as the lender of last resort for Islamic banks. In 2004, the first Shariah-compliant Treasury bills were issued globally, further supporting the growth of Islamic banking assets throughout the 2008 global financial crisis (Lashab & Bouriche, 2015, p. 95).

3. Dominance in Global Sukuk Issuance

Malaysia is one of the largest issuers of sukuk in the financial markets. In recent years, Malaysia's issuance volume has exceeded two-thirds of the global sukuk value. Malaysia captured 42.4% (Figure 06) of global sukuk issuance, achieving substantial economic growth and leading the top ten countries worldwide with a value of 73 billion USD by the end of 2021 (Figure 07). Despite economic challenges, including the Covid-19 pandemic, Malaysia remains at the forefront of the sukuk market, both in terms of value and the number of issuances.

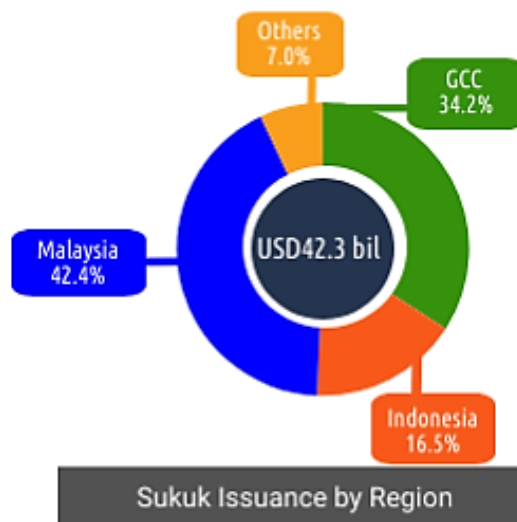


Figure 2.8: Global Sukuk Issuance Share by Malaysia

Source: Malaysia International Islamic Finance Centre (MIFC), *Malaysia and Global Sukuk Snapshot (Q1 2021)*, Available on: <https://www.mifc.com/-/malaysia-and-global-sukuk-snapshot-q1-2021-?redirect=%2Fexplore-islamic-capital-market>, p: 06, (03/08/2023)

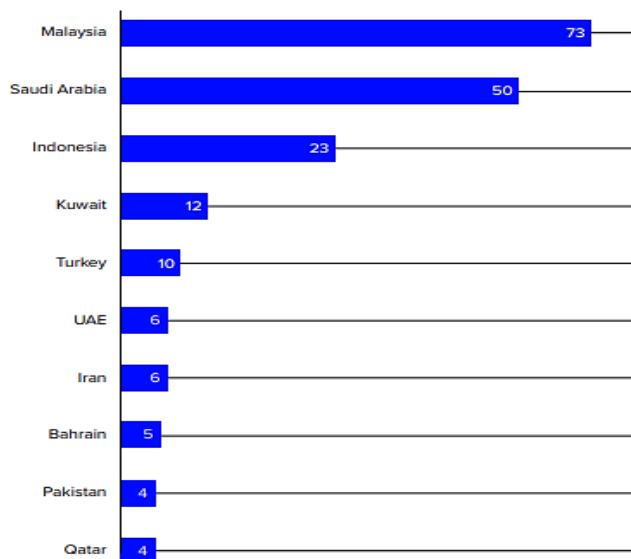


Figure 2.9: Value of Islamic Sukuk Issuance by the Top 10 Countries Globally
Source: RFINITIV, *ISLAMIC FINANCE DEVELOPMENT INDICATOR*, Disponible sur: https://icd-ps.org/uploads/files/ICD%20Refinitiv%20ifdi-report-20221669878247_1582.pdf (03/07/2023), p: 45.

4. Value-Based Intermediation (VBI)

Malaysia has distinguished itself with an initiative launched by *Bank Negara Malaysia* in 2016, known as "Value-Based Intermediation" (VBI). This initiative

represents a new direction for the banking sector, particularly Islamic banking. The essence of VBI lies in conducting financial intermediation that achieves both economic and social impacts simultaneously. In its 2016 Financial Stability Report, *Bank Negara Malaysia* encouraged Islamic banks to focus on the social and economic impact of Islamic finance. The report introduced a new vision for Islamic finance—VBI—which aims to fulfill the objectives of Shariah in Islamic banking by exerting a sustainable and positive influence on the economy, society, and the environment, without compromising shareholders' rights. Malaysia has embodied a unique environment for socially responsible investment, with its fundamental principles as follows (Salhi, pp. 310-311):

4.1 Expansion of Socially Responsible Investment Instruments: This includes the introduction of products like green sukuk, financing projects aimed at improving educational standards, adopting digitization to reduce paper use, and recycling plastic to create Islamic credit and debit cards.

4.2 Broadening the Investor Base: This involves attracting a diverse range of product buyers, whether individuals or institutions.

4.3 Building a Base of Sellers: This involves involving both listed and unlisted companies.

4.4 Inculcating Governance Values: This emphasizes principles such as disclosure, transparency, fairness, and independence.

4.5 Engineering Information: This involves creating a detailed database of investors.

5. Islamic Finance Development Indicator (IFDI)

The Islamic Finance Development Indicator (IFDI) provides stakeholders in Islamic finance, including governments and financial institutions, with a detailed analysis of the key factors driving the development and growth of the Islamic finance industry globally. According to this indicator, Malaysia ranks at the top of the global Islamic finance industry with a score of 113 in 2022. The strengths of Malaysia's Islamic finance system, as shown in the table below, are primarily in the areas of Awareness (172 points), Knowledge (147 points), Sustainability (117 points), Governance (94 points), and Financial Performance (98 points).

Table 2.1: Ranking of the Top Countries by IFDI Scores in 2022

| Country | Ranking | IFDI 2022 Score | Financial Performance | Governance | Sustainability | Knowledge | Awareness |
|-------------------|---------|-----------------|-----------------------|------------|----------------|-----------|-----------|
| Malaysia | 1 | 113 | 98 | 94 | 117 | 147 | 172 |
| Saudi Arabia | 2 | 74 | 65 | 49 | 89 | 75 | 143 |
| Indonesia | 3 | 61 | 31 | 65 | 30 | 195 | 56 |
| Bahrain | 4 | 59 | 35 | 86 | 36 | 49 | 112 |
| Kuwait | 5 | 59 | 42 | 75 | 20 | 21 | 157 |
| UAE | 6 | 52 | 33 | 71 | 28 | 34 | 116 |
| Oman | 7 | 48 | 16 | 89 | 45 | 28 | 94 |
| Pakistan | 8 | 43 | 22 | 75 | 24 | 52 | 58 |
| Qatar | 9 | 38 | 25 | 47 | 21 | 16 | 102 |
| Bangladesh | 10 | 36 | 30 | 61 | 18 | 14 | 47 |
| Maldives | 11 | 32 | 16 | 72 | 35 | 12 | 19 |
| Brunel Darussalam | 12 | 31 | 14 | 58 | 10 | 32 | 48 |
| Jordan | 13 | 29 | 15 | 40 | 51 | 43 | 17 |
| Sudan | 14 | 27 | 32 | 51 | 3 | 9 | 5 |
| Singapore | 15 | 27 | 4 | 66 | 61 | 4 | 8 |
| Global Average | | 9 | 5 | 16 | 7 | 7 | 12 |

Source: RFINITIV, ISLAMIC FINANCE DEVELOPMENT INDICATOR, Disponible sur: https://icd-ps.org/uploads/files/ICD%20Refinitiv%20ifdi-report-20221669878247_1582.pdf (22/07/2023), p: 12.

The Emergence of Islamic Banking in Malaysia

Despite the relatively late emergence of the Islamic banking system in Malaysia, it has experienced rapid and significant development from its early stages. The initial Islamic orientation in the country's banking sector began in 1983 when the Malaysian government enacted the Islamic Banking Act, building upon the foundations established in the 1960s with the creation of the Tabung Haji funds, which were designed to support Malaysians in performing the pilgrimage (Hajj). The stages of the emergence and development of the Islamic banking system in Malaysia are outlined as follows (Al-Abed, 2019, pp. 186-187):

1. The First Phase (1983 to 1992): The Foundation Stage

The period from 1983 to 1993 is considered an experimental phase, during which Bank Islam Malaysia Berhad (BIMB) was established in 1983 in accordance with the Islamic Banking Act. This initiative aimed to transform the local banking landscape, marking the birth of the Malaysian experience in Islamic finance.

2. The Second Phase (1993 to 1999)

In 1993, when Bank Negara Malaysia (the central bank) introduced its interest-free banking scheme, it was immediately approved by the government. The program authorized the opening of Islamic windows within conventional banks, which operated independently in terms of administration and accounting. This also encouraged conventional banks to offer Sharia-compliant services. Foreign banks were also motivated to propose their own programs to establish branches,

while an Islamic banking system was created in 1999, operating in accordance with Sharia principles, thereby encouraging Islamic banks to develop Islamic financial products.

3. The Third Phase (2001-2010): The Expansion and Completion of the Dual Banking System

This phase witnessed significant efforts to position Malaysia as a hub for Islamic financial and banking transactions, in line with Vision 2020 and the ten-year plan for 2001-2010, which aimed to achieve a 20% share of the total banking market for the Islamic banking sector. This was achieved through three main areas: enhancing the competitiveness of institutions, fostering healthy competition among Islamic banks and Takaful (Islamic insurance) customers, and strengthening the regulatory framework for Islamic finance to ensure efficient performance alongside conventional banks and insurance institutions. The major changes during this phase helped achieve the following objectives (Ben Mechiche, 2020, p. 183):

Malaysia announced the establishment of the Islamic Capital Market in 2001, which is considered a complementary sector to the Islamic banking industry, by offering and trading Sharia-compliant securities in the secondary market.

Following the approval of a group of monetary institutions from several Islamic countries, alongside Bank Negara Malaysia, to establish Malaysia as the headquarters for the Islamic Financial Services Board (IFSB), the Islamic banking sector was further strengthened.

In 2003, licenses were granted to Islamic banks outside the country, contributing to the liberalization of the banking market.

Bank Negara Malaysia converted Islamic windows in conventional banks into Islamic branches in 2003.

The formulation of a long-term financial system plan, known as the Financial Sector Blueprint 2011, within the framework of Vision 2020, served as a strategic roadmap outlining the future direction of the Islamic financial system. The internationalization of Islamic finance was a key objective of this plan. Additionally, the enactment of the Islamic Financial Services Act, which came into effect on June 30, 2013, marked a significant development in Malaysia's regulatory and legislative framework for the Islamic financial industry in 2013. The purpose of this act was to establish a foundation for legal and Sharia compliance for Islamic financial institutions in Malaysia (Boutoura & Zaghlami, 2022, p. 98).

5- The Islamic Banking System in Malaysia

1. Development of Islamic Banking Finance from 2006 to 2021

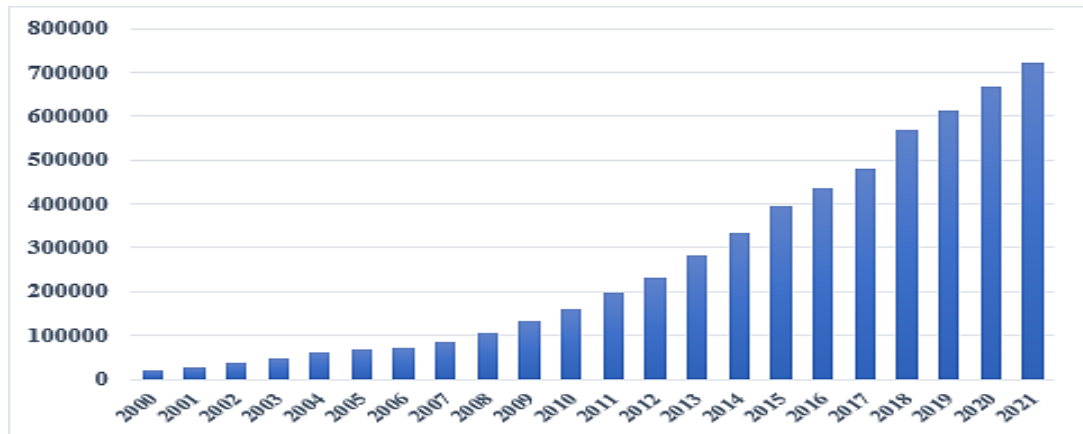


Figure (2.10): Development of Islamic Banking Finance in Malaysia (2006-2021)
 Source: Compiled by the researcher based on reports from Bank Negara Malaysia for the period 2006-2021, available at: <https://www.bnm.gov.my/-/monthly-highlights-statistics-in-november-2022>

The figure clearly illustrates the continuous and sustained growth of Islamic banking finance in Malaysia. This growth can be attributed to several key factors, most notably the enactment of laws and regulations that incentivize the growth of the Islamic financial industry in the country. Additionally, the Malaysian government's strategic programs, such as the 2001 Financial Sector Masterplan and the 2006 program aimed at establishing Malaysia as a global Islamic financial hub, as well as the Islamic Financial Services Act (IFSA) of 2013, have all contributed to the increase in Islamic banking assets within Malaysia's financial system and the maintenance of its global market share leadership.

2. Distribution of Islamic Banking Finance by Key Economic Sectors in Malaysia (2006-2021)

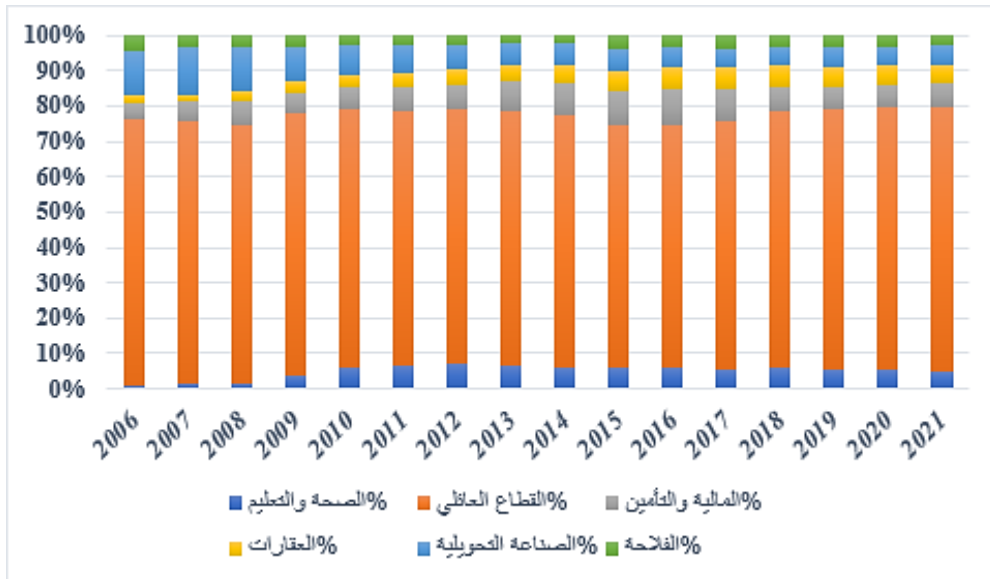


Figure (2.11): Distribution of Islamic Banking Finance by Key Economic Sectors in Malaysia (2006-2021)

Source: Compiled by the researcher based on reports from Bank Negara Malaysia for the period 2006-2021, available at: <https://www.bnm.gov.my/-/monthly-highlights-statistics-in-november-2022>

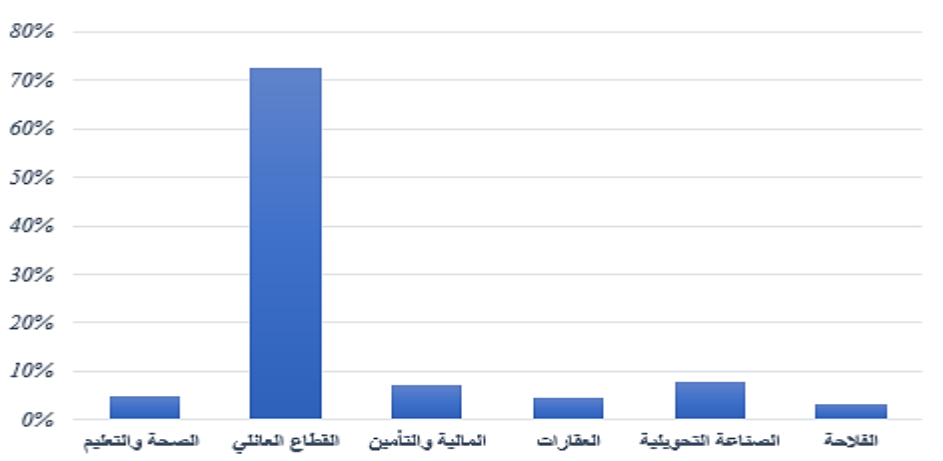


Figure (2.12): Key Economic Sectors Financed by Islamic Banks in Malaysia (2006-2021)

Source: Compiled by the researcher based on reports from Bank Negara Malaysia for the period 2006-2021, available at: <https://www.bnm.gov.my/-/monthly-highlights-statistics-in-november-2022>

The figures show the development of Islamic banking finance flows from various Islamic banks, as well as Islamic windows and branches within conventional

banks, across various economic activities. Most sectors received relatively low proportions of Islamic banking finance, such as the agriculture, industry, healthcare, and education sectors, with financing percentages ranging from 1.1% to 13.5%. However, the household sector received the largest share of Islamic banking finance during 2006-2021, amounting to 72.6% in 2021. This indicates a preference among Islamic banks to invest in the household sector, which offers a known profit margin, over other sectors, with Murabaha being the most commonly used financing method at the expense of other investment formats.

Chapter Two: Study Results and Discussion

In this chapter, we will examine the relationship between Islamic banking finance and domestic investment in Malaysia using the Johansen Cointegration test. This model measures the impact of Islamic banking finance flows from various Islamic banks, Islamic windows, and branches within commercial and investment banks in Malaysia, as an indicator of the size of the Islamic financial industry, on the volume of domestic investment during the period (2000-2021).

First: Description of the Econometric Model

1. Johansen-Juselius Cointegration Test:

The Johansen-Juselius cointegration test is one of several cointegration tests for econometric models. It is preferred over the earlier Engle-Granger test due to its suitability for small sample sizes, its ability to identify multiple cointegrations in the model, and its capacity to reveal a unique cointegration relationship between variables. To determine the number of cointegration vectors, two tests were used (Iman Mohammed, 2021, p. 599):

A. Trace Test:

- This test evaluates the null hypothesis that the number of cointegration vectors is less than or equal to (q) against the alternative hypothesis that (q = r), as follows:

$$\lambda_{trace}(r) = -T \sum_{i=r+1}^p \ln(1 - \lambda_i)$$

B. Maximal Eigenvalue Test:

- This test calculates the following formula:

$$\lambda_{max}(r, r+1) = -T \ln(1 - \lambda_{r+1})$$

- In this test, we test the null hypothesis of the presence of (r) cointegration vectors against the alternative hypothesis of the presence of (r+1) cointegration vectors.

2. Model Estimation

Based on economic theory and previous empirical studies on the impact of Islamic finance on domestic investment, the following basic model will be estimated:

$$Lin_v = f(Lif) + u_t$$

3. Model Variables

This model examines the following variables:

3.1 Islamic Banking Finance (IF):

Islamic banking finance in Malaysia represents the total flow of finance from all local and foreign Islamic banks in Malaysia, as well as various Islamic windows

and branches within conventional banks. The data are annual, expressed in current prices of the Malaysian local currency (Million Malaysian Ringgit) for the period 2000-2021, and were obtained from Bank Negara Malaysia (BNM).

3.2 Domestic Investment (INV):

Also known as Gross Fixed Capital Formation (GFCF), domestic investment refers to expenditure on capital goods such as machinery, factories, homes, etc., as well as changes in inventory (raw materials and other productive goods). The data are annual for the study period (2000-2021).

The following table outlines the model variables used in the study:

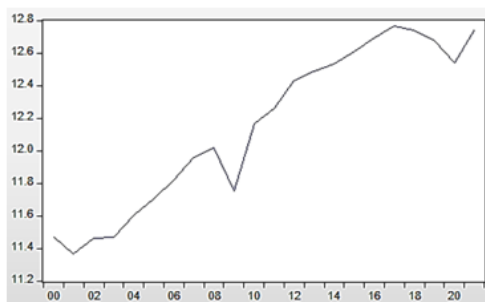
Table (2.2): Classification of Econometric Study Variables

| Variable | Unit | Symbol | Data Source | Study Period |
|-------------------------------|---------------------------|------------|----------------------------|------------------|
| Total Islamic Banking Finance | Million Malaysian Ringgit | IF | Bank Negara Malaysia (BNM) | 2000/2021 |
| Domestic Investment | Billion Malaysian Ringgit | INV | World Bank (WB) | 2000/2021 |

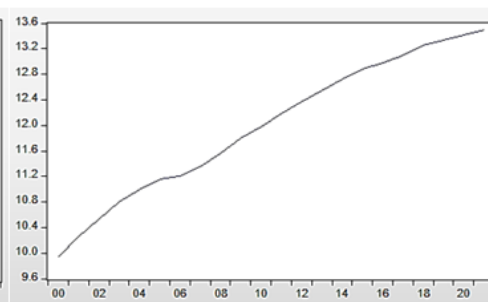
Source: Compiled by the researcher based on reports from Bank Negara Malaysia, available at: <https://www.bnm.gov.my/-/monthly-highlights-statistics-in-november-2022>

4. Graphical Representation of Study Variables

The Development of Domestic Investment
(LOG_INV) During the Study Period



The Development of Islamic Banking Finance
(LOG_IF) During the Study Period



Prepared by the researcher using the output from EViews 10.

Figure (13.2): Graphical Representation of Study Variables

The figure shows the non-stationarity of the time series for both variables (LOG_IF, LOG_INV). However, it does not clarify whether the non-stationarity is due to the presence of a unit root. Therefore, it is necessary to conduct a unit root test.

2. Diagnosis and Analysis of the Econometric Model

1. Stationarity of Time Series

As an initial step, it is crucial to examine the stationarity of the time series under study to understand their characteristics and degree of integration. In this context, the Augmented Dickey-Fuller test (ADF) and the Phillips-Perron test (PP) will be employed to determine the integration order of the study variables. The following table presents the results of these tests:

Table 2.3: Results of the Unit Root Test for the Study Variables Using the ADF Test

| UNIT ROOT TEST TABLE (ADF) | | | | |
|-----------------------------------|--------------|---------------|---------------|--|
| <u>At Level</u> | | | | |
| | | LOG_INV | LOG_IF | |
| With Con... | t-Statistic | -0.4230 | 6.0890 | |
| | Prob. | 0.8880 | 1.0000 | |
| | | n0 | n0 | |
| With Con... | t-Statistic | -2.4811 | -0.7377 | |
| | Prob. | 0.3327 | 0.9560 | |
| | | n0 | n0 | |
| Without C... | t-Statistic | 1.6242 | 1.7173 | |
| | Prob. | 0.9700 | 0.9747 | |
| | | n0 | n0 | |
| <u>At First Difference</u> | | | | |
| | | d(LOG_INV) | d(LOG_IF) | |
| With Con... | t-Statistic | -4.5280 | -1.6274 | |
| | Prob. | 0.0021 | 0.4509 | |
| | | *** | n0 | |
| With Con... | t-Statistic | -4.3811 | -4.0158 | |
| | Prob. | 0.0126 | 0.0256 | |
| | | ** | ** | |
| Without C... | t-Statistic | -3.6583 | 0.3447 | |
| | Prob. | 0.0009 | 0.7743 | |
| | | *** | n0 | |

Source: Prepared by the researcher based on the outputs of Eviews 10.

The results of the ADF unit root test, as shown in the table above, indicate that the time series are stationary at the level. After applying the first differences, the time series for both variables became stationary at the first difference.

Table 2.4: Results of the Unit Root Test for the Study Variables Using the PP Test

| UNIT ROOT TEST TABLE (PP) | | | |
|----------------------------------|--------------|---------------|---------------|
| <u>At Level</u> | | LOG_INV | LOG_IF |
| With Con... | t-Statistic | -0.3273 | 5.0548 |
| | Prob. | 0.9050 | 1.0000 |
| | | n0 | n0 |
| With Con... | t-Statistic | -2.4811 | -0.7378 |
| | Prob. | 0.3327 | 0.9560 |
| | | n0 | n0 |
| Without C... | t-Statistic | 1.7296 | 8.1281 |
| | Prob. | 0.9756 | 1.0000 |
| | | n0 | n0 |
| <u>At First Difference</u> | | | |
| | | d(LOG_INV) | d(LOG_IF) |
| With Con... | t-Statistic | -4.5173 | -1.4195 |
| | Prob. | 0.0022 | 0.5521 |
| | | *** | n0 |
| With Con... | t-Statistic | -4.3610 | -4.0119 |
| | Prob. | 0.0131 | 0.0257 |
| | | ** | ** |
| Without C... | t-Statistic | -3.6584 | -0.0551 |
| | Prob. | 0.0009 | 0.6523 |
| | | *** | n0 |

Source: Outputs of Eviews 10.

The results of the PP unit root test, as illustrated in the table above, demonstrate that the time series are stationary at the level. After applying the first differences, the time series for both variables became stationary at the first difference. Based on the results of the unit root tests (ADF and PP), it is evident that both variables (LOG_IF and LOG_INV) are stationary at the first differences I(1), meaning they are integrated of the same order.

2. Stationarity of the Residual Series

After examining the stationarity of the time series for Islamic banking finance and domestic investment, we proceed to analyze the stationarity of the residual series. The criteria are as follows:

- If $t_{tab} < t_{statistic}$: We reject the null hypothesis H_0 , indicating that the residual series is not stationary.
- If $t_{tab} > t_{statistic}$: We accept the null hypothesis H_0 , indicating that the residual series is stationary.

Using the software, the following results were obtained:

Table 2.5: Results of the Unit Root Test for the Residual Series

Null Hypothesis: RESID01 has a unit root

Exogenous: None

Lag Length: 0 (Automatic - based on SIC, maxlag=4)

| | t-Statistic | Prob.* |
|--|-------------|--------|
| Augmented Dickey-Fuller test statistic | -1.637882 | 0.0945 |
| Test critical values: | | |
| 1% level | -2.679735 | |
| 5% level | -1.958088 | |
| 10% level | -1.607830 | |

*Mackinnon (1996) one-sided p-values.

Source: Outputs of Eviews 10.

From the table, we observe that the p-values for both the ADF and PP tests are lower than the 5% significance level. Thus, we reject the null hypothesis H_0 , indicating that the residual series does not contain a unit root and is stationary at the level (without a constant and trend).

3. Cointegration Test (Johansen-Juselius Contegration)

After examining the stationarity of the variables, we found that both the independent and dependent variables are stationary after first differences, indicating that they are integrated of order (1)I, as shown in the table. Consequently, a cointegration test between the two series can be conducted.

1.3. Determining the Lag Length for the Vector Autoregressive (VAR) Model

Before estimating the vector autoregressive (VAR) model equation, the number of lags must be determined. The following table displays the lag periods, where the lag length corresponding to the lowest values for the following criteria is selected:

Table 2.6: Results of Lag Length Determination

VAR Lag Order Selection Criteria

Endogenous variables: LOG_IF LOG_INV

Exogenous variables: C

Date: 09/15/23 Time: 19:34

Sample: 2000 2021

Included observations: 18

| Lag | LogL | LR | FPE | AIC | SC | HQ |
|-----|-----------|-----------|-----------|-----------|-----------|-----------|
| 0 | -461.4441 | NA | 7.92e+19 | 51.49379 | 51.59272 | 51.50743 |
| 1 | -398.9305 | 104.1892 | 1.20e+17 | 44.99228 | 45.28907* | 45.03321 |
| 2 | -398.1361 | 1.147561 | 1.75e+17 | 45.34845 | 45.84310 | 45.41666 |
| 3 | -396.9005 | 1.510109 | 2.52e+17 | 45.65561 | 46.34813 | 45.75110 |
| 4 | -383.6065 | 13.29406* | 1.00e+17* | 44.62294* | 45.51331 | 44.74571* |

Source: Outputs of Eviews 10.

The table above shows the lag periods for the model. According to the results from all criteria, the optimal lag length is (Lag = 4).

2.3. Johansen Test for Determining Cointegration Relationships Between Variables

After testing the stationarity of the time series for the study variables and determining their integration order $I(1)$, and confirming the stationarity and zero-degree integration of the residual series, it implies that there is long-term cointegration among the study variables. Therefore, we perform the Johansen-Juselius cointegration test:

Table 2.7: Johansen Test for Cointegration Between Islamic Banking Finance and Domestic Investment

Date: 09/20/23 Time: 22:03
Sample (adjusted): 2005 2021
Included observations: 17 after adjustments
Trend assumption: Linear deterministic trend
Series: LOG_INV LOG_IF
Lags interval (in first differences): 1 to 4

Unrestricted Cointegration Rank Test (Trace)

| Hypothesized No. of CE(s) | Eigenvalue | Trace Statistic | 0.05 Critical Value | Prob.** |
|---------------------------|------------|-----------------|---------------------|---------|
| None * | 0.607424 | 25.65152 | 15.49471 | 0.0011 |
| At most 1 * | 0.436669 | 9.756084 | 3.841466 | 0.0018 |

Trace test indicates 2 cointegrating eqn(s) at the 0.05 level
* denotes rejection of the hypothesis at the 0.05 level
**MacKinnon-Haug-Michelis (1999) p-values

Unrestricted Cointegration Rank Test (Maximum Eigenvalue)

| Hypothesized No. of CE(s) | Eigenvalue | Max-Eigen Statistic | 0.05 Critical Value | Prob.** |
|---------------------------|------------|---------------------|---------------------|---------|
| None * | 0.607424 | 15.89544 | 14.26460 | 0.0274 |
| At most 1 * | 0.436669 | 9.756084 | 3.841466 | 0.0018 |

Max-eigenvalue test indicates 2 cointegrating eqn(s) at the 0.05 level
* denotes rejection of the hypothesis at the 0.05 level
**MacKinnon-Haug-Michelis (1999) p-values

Source: Outputs of Eviews 10.

From the table above, we observe that the Trace Statistic value is greater than the Critical Value (0.05%). Additionally, the Max-Eigen Statistic value is also greater than the Critical Value (0.05%). Therefore, we reject the null hypothesis H_0 and accept the alternative hypothesis, indicating that there is a long-term cointegration relationship between Islamic banking finance and domestic investment.

4. Granger Causality Test

We conduct the Granger causality test to determine the direction of the causal relationship between Islamic banking finance (Log_IF) and domestic investment (Log_INV). The results obtained are as follows:

Table 2.8: Results of the Granger Causality Test

VAR Granger Causality/Block Exogeneity Wald Tests
 Date: 09/20/23 Time: 21:41
 Sample: 2000 2021
 Included observations: 18

Dependent variable: LOG_INV

| Excluded | Chi-sq | df | Prob. |
|----------|----------|----|--------|
| LOG_IF | 28.04281 | 4 | 0.0000 |
| All | 28.04281 | 4 | 0.0000 |

Dependent variable: LOG_IF

| Excluded | Chi-sq | df | Prob. |
|----------|----------|----|--------|
| LOG_INV | 9.059603 | 4 | 0.0596 |
| All | 9.059603 | 4 | 0.0596 |

Source: Outputs of Eviews 10.

The table shows that the p-value is less than 5% (Prob = 0.0000). Therefore, we reject the null hypothesis and accept the alternative hypothesis, which indicates a causal relationship running from the logarithm of Islamic banking finance (Log_IF) to the logarithm of domestic investment (Log_INV).

The table also shows that the p-value is greater than 5% (Prob = 0.0596). Thus, we accept the null hypothesis, which implies no causal relationship running from the logarithm of domestic investment (Log_INV) to the logarithm of Islamic banking finance (Log_IF).

As a result, there is a unidirectional causal relationship from Islamic banking finance to domestic investment. Based on the previous results, we can conclude that the unidirectional causal relationship between Islamic banking finance and domestic investment is due to the contribution of Islamic banks and Islamic windows in conventional banks in stimulating domestic investment through financing small and medium-sized enterprises, most of which are family-owned and considered the backbone of the Malaysian economy. Additionally, the

issuance and trading of Islamic bonds by Islamic banks and windows contribute to the country's economic development.

5. Response Functions

The following figure summarizes the response functions of domestic investment and Gross Domestic Product (GDP) to shocks resulting from Islamic banking finance:

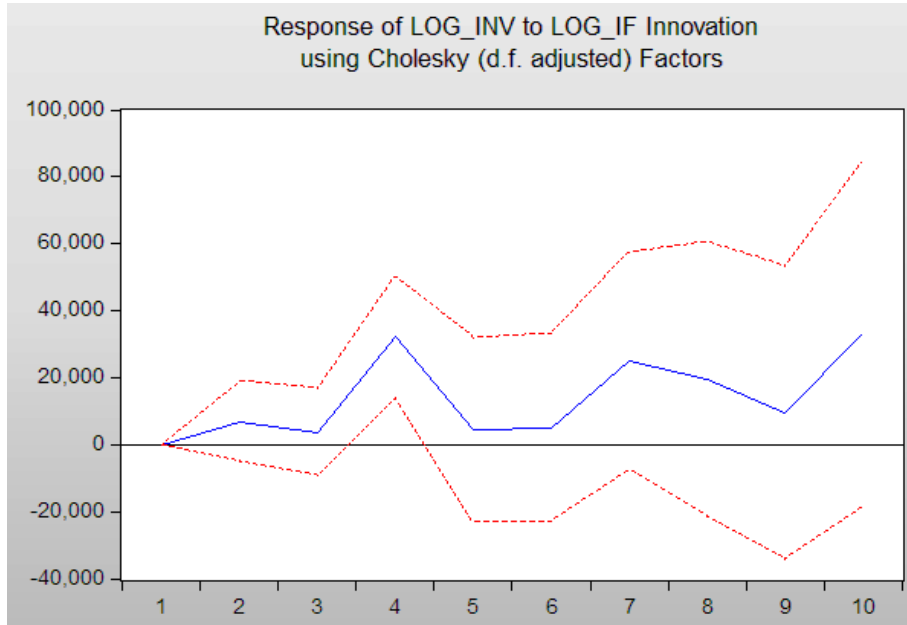


Figure 2.14: Response Functions
Source: Outputs of Eviews 10.

From the above figure, it is observed that a one-standard-deviation shock in Islamic banking finance results in varying responses in domestic investment with a positive trend over the years. The highest response value was recorded in the tenth year, amounting to 33,034.93.

Conclusion

Islamic finance, based on principles and rulings of Islamic law, has stimulated researchers to evaluate its benefits and features and to promote its continued growth for long-term sustainability. The Islamic financial model is currently considered the most suitable alternative for both advanced and developing economies, as it adheres to fundamental equitable principles governing investment processes and safeguarding the rights of its participants. It addresses economic, social, legal, ethical, and even environmental aspects, making it a well-suited alternative for the needs of both developing and developed economies.

In this context, this study aimed to assess the impact of Islamic banking finance, a key indicator of the size of the Islamic financial industry, on domestic (real)

investment within the Malaysian economy. This model has established Islamic finance as a fundamental component in mobilizing and allocating financial resources towards productive investments. To achieve this, the study explored the theoretical foundations of investment from an Islamic perspective, including its regulations, and then examined various Islamic financial instruments sanctioned by Sharia law for investment financing.

Our study yielded the following results:

- The Johansen Cointegration test was employed to study the cointegration between Islamic banking finance, as provided by various Islamic banks, windows, and branches operating in conventional and investment banks in Malaysia, and domestic investment over the period (2000-2021). The results are as follows:
- Based on the Johansen test in the long term, it was concluded that there is a positive relationship between Islamic banking finance and domestic investment in Malaysia.
- The unidirectional causal relationship between Islamic banking finance and domestic investment is explained by the contribution of Islamic banks and windows in conventional banks in stimulating domestic investment by financing small and medium-sized enterprises, most of which are family-owned and considered the backbone of the Malaysian economy, contributing to the country's economic development.
- The figure above indicates that a one-standard-deviation shock in Islamic banking finance leads to varying responses in domestic investment with a positive trend over the years, with the highest response value reaching 33,034.93 in the tenth year.

Recommendations

Based on our study, several recommendations can be made to advance Islamic banking in Algeria and align it with leading countries in the field:

- Adequately prepare and train personnel to serve Islamic banking according to a strategic vision.
- Enhance coordination between judicial authorities and Sharia supervisory boards to resolve financial disputes.
- Define the relationship and integration between the national Sharia board and its theory at the level of Islamic banks and windows in assessing Islamic transactions and their compliance with Sharia.
- Direct Islamic banking finance towards small, medium, and even micro enterprises for their investment projects, as these small enterprises are the primary drivers of growth and development, acting as the backbone of the national economy and creating job opportunities that reduce unemployment.
- Establish a financial market for issuing surplus funds in the form of Islamic bonds to finance major projects that stimulate investment and economic growth.
- Provide an appropriate environment for utilizing surplus liquidity in Islamic banks and windows to finance long-term investments in real economic activities.
- Reassess the financing policies of Islamic banks, focusing more on participation and profit-sharing modes for investment activities rather than other methods, as these are fundamental for real, production-based investments with high returns,

unlike commercial and consumer financing that diverts Islamic banks from their primary developmental goals.

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